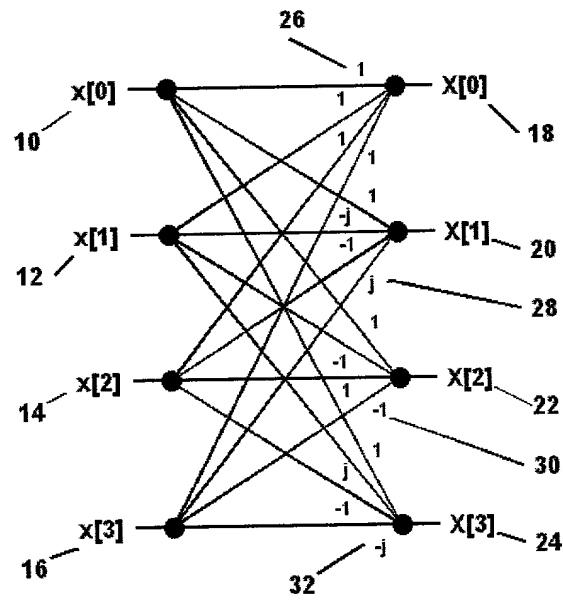


FIG. 1



1. The first step is to identify the problem. This involves understanding the symptoms and the context in which they are occurring.

| weight | two's complement representation | | | | | | | | | | | | | | | |
|-----------------|---------------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| $\sin(2\pi/64)$ | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| $\sin(4\pi/64)$ | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |

| | | | | | | | | | | | | | |
|-----------------|--------------|----|--|----|---------------|--|----|----|----|----|--|----|----|
| | 38 | 40 | | 34 | 36 | | 54 | 56 | 58 | 60 | | 50 | 52 |
| | 16-bit value | | | | desired value | | | | | | | | |
| $\sin(2\pi/64)$ | 0.097991 | | | | 0.098017 | | | | 46 | | | | |
| $\sin(4\pi/64)$ | 0.195068 | | | | 0.195090 | | | | 48 | | | | |